



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

Correction.—On page 748, by a slip of the pen the “popple” of the Colorado Mountains is given as *Populus balsamifera candicans*; it should be *P. tremuloides*.—CHARLES E. BESSEY.

Botanical News.—A suggestive pamphlet on “The Pathology of Plants” by B. T. Galloway comes from the Office of Experiment Stations of the United States Department of Agriculture. Its object is to point out certain lines of work in plant pathology that might be undertaken by botanists in the state experiment stations.—From the Division of Agrostology, (U. S. Dept. Agriculture) we have “Fodder and Forage Plants, exclusive of the Grasses” a pamphlet of fifty-eight pages, by Jared G. Smith. It is a descriptive, illustrated list of these plants, written in semi-popular language. It will be of value not only to stock growers, but to scientific botanists as well—Professor W. J. Beal has recently published a Report of the Botanical Department of the Michigan Agricultural College from which we learn that there are in the herbarium 54,243 specimens, and that the botanic garden, begun in 1877 now contains 1335 species.—The Contributions from the U. S. National Herbarium (Vol. III, No. 9) issued August 5, 1896 contains the following papers: The Flora of Southwestern Kansas, a report on a collection of plants made by C. H. Thompson in 1893, by A. S. Hitchcock; *Crepis accidentalis* and its allies, by F. V. Coville; Plants from the Big-Horn Mountains of Wyoming, by J. N. Rose; *Leibergia*, a new genus of Umbelliferae from the Columbia River Region, by J. M. Coulter and J. N. Rose; *Roseanthus*, a new genus of *Cucurbitaceae* from Acapulco, Mexico, by Alfred Cogniaux.

ZOOLOGY.

Notes on Turbellaria.—I. ON THE OCCURENCE OF BIPALIUM KEWENSE (MOSELEY) IN THE UNITED STATES.

Since the appearance of Moseley's¹ paper in 1878 the species has been recorded from other parts of Great Britain and Ireland, and from Berlin and Frankfurt, A. M. on the continent. It has also been found at the Cape of Good Hope in Africa, in the colonies of Queensland, New South Wales and Victoria in Australia, at Auckland in New Zea-

¹Moseley, H. N. Description of a New Species of Land-Planarian from the Hothouses at Kew Garden. Ann. Mag. Nat. Hist., Ser. 5. Vol. I, pp. 237-239 1878.

land, Upolu in Samoa and Joinville in Brazil. The wide distribution of this, the largest of land planarians, has doubtless been brought about through the agency of man, the well-marked genus being indigenous only in Japan, China, India, Ceylon, the Malay Archipelago and the East Indies, but this species, *Bipalium kewense*, has never been found in these countries; its home is unknown.

The purpose of this communication is to record the existence of the species in the United States. It is quite abundant in Cambridge, Mass., and has been found there in two different greenhouses. A methodical search would no doubt reveal it in others of the many greenhouses in the vicinity. The largest of the Cambridge specimens measured 300 mm. in length, with a diameter of 4 mm., shorter individuals measuring from 15 mm. upward with the same diameter of 4 mm. The smallest of the specimens always lack the semilunar head end, they being without doubt, the products of reproduction by transverse division in which the head-end had not yet regenerated.

In 1892 Sharp² published the description of a *Bipalium* from a greenhouse in Landsdown, Pennsylvania, which he called *B. manubriatum*. It was suggested by Colin³ that Sharp's specimen was nothing else than *B. kewense*, for with the exception of the statement that the median stripe is the broadest of the longitudinal markings, the descriptions of *B. manubriatum* agrees in every way with that of *B. kewense*. Variations in the width of the median band in different regions of the same individual of *B. kewense* have been described and figured by Richter⁴ and Bergendal,⁵ and Dendy⁶ has shown the great variability of land planarians within a single species both as regards color and markings. There can be little doubt, therefore, that the single specimen studied by Sharp was the *Bipalium kewense* of Moseley.

The writer would be grateful for any information as to the occurrence of the species in other parts of the United States, and would be glad to have material from other localities.

² Sharp, B. On a probable New Species of *Bipalium*. Proc. Acad. Nat. Sci. Philad., 1891, pp. 120-123, 1892.

³ Colin, A. Mittheilungen über Würmer. Sitzungsab. Gesell. naturf. Freunde Berlin, Jahrg. 1892, No. 9, pp. 164-166.

⁴ Richter, F. *Bipalium kewense* Moseley eine Landplanarie des Palmenhauses zu Frankfurt, A. M. Zool. Garten, Jahrg. XVIII, pp. 231-234, 1887.

⁵ Bergendal, D. Studien über Turbellarien. I. Ueber die Vermehrung durch Quertheilung des *Bipalium Kewense* Moseley. Kongl. Svenska. Vetensk-Akad. Handl., Bd. XXV, No. 4, 42, pp. 1 Pl., 1892.

⁶ Dendy, A. Notes on Some New and Little-known Land planarians from Tasmania and South Australia. Proc. Roy. Soc. Victoria, Vol. VI, pp. 178-188, Pl. X, 1893.

2. ON THE IDENTITY OF PROCOTYLA FLUVIATILIS LEIDY AND DENDROCÆLUM LACTEUM OERSTED.

Procotyla fluviatilis was first described by Leidy⁷ in 1852 under the name of *Dendrocœlum superbum* Girard. In Stimpson's *Prodromus*⁸ (1858) we find for the first time the form under *Procotyla fluviatilis* Leidy M. S. with the synonym *Dendrocœlum superbum* Leidy (non Girard). Stimpson's nomenclature evidently being taken from manuscript notes of Leidy, but Leidy himself did not use the name *Procotyla fluviatilis* until 1885.⁹ In 1893 Girard¹⁰ in an exhaustive paper on North American Turbellaria makes a new species out of Leidy's first description, which was not his (Girard's) *D. superbum*, calling it *Procotyla* Leidy (with the synonym *Dendrocœlum superbum* Leidy (non Girard), and also retains *P. fluviatilis* as a second species of *Procotyla*. In other words, Girard in the same work under two different names gives two different descriptions of the same species. He thus adds greatly to the confusion existing in our knowledge of North American Turbellaria. When our Turbellaria become better known there is reason to believe that the existing large list of species will be much reduced.

A careful study of the structure of *Procotyla fluviatilis* has convinced the writer that this, one of the commonest of our freshwater planarians, is identical with the widely distributed *Dendrocœlum lacteum* Oersted of Europe, and that the genus *Procotyla* should be abandoned. It was predicted by Hallez¹¹ that *Procotyla* would be eliminated when its internal structure should become known. The anatomy and histology of *Dendrocœlum lacteum* has been most carefully worked out by Iijima.¹² His account and figures agree in every way with the American form, as does also the older account of Oscar Schmidt.¹³ The variation in

⁷ Leidy, J. Corrections and Additions to former Papers on Helminthology. Proc. Acad. Nat. Sci. Philad., Vol. V, pp. 288-289, 1852.

name of *Dendrocœlum superbum* Girard. In Stimpson's⁸ *Prodromus*

⁸ Proc. Acad. Nat. Sci. Philad., Vol. IX, pp. 23, 1857.

⁹ Leidy, J. Planarians. The Museum, Vol. I, No. 4, p. 5. Philadelphia, 1885.

¹⁰ Girard, Ch. Recherches sur les Planariés et les Némertiens du l'Amérique du Nord. Ann. Sci. Nat., Zool. Tom., XV, pp. 164-166, 1893.

¹¹ Hallez, P. Catalogue des Turbellariés (Rhabdocœlides, Triclades et Polyclades) du Nord de la France, etc. Revue Biol. du Nord de la France, T. IV No. 11, p. 454, 1892.

¹² Iijima, I. Untersuchungen über den Bau und die Entwicklungsgeschichte der Süßwasser-Dendrocœlen (Trichliden). Zeitschr. wiss. Zool., Bd. XI, pp. 359-464, Taf. XX-XXIII, 1884.

¹³ Schmidt, O. Untersuchungen über Turbellarien von Corfu und Cephalonia. Zeitschr. wiss. Zool. Bd. XI, pp. 1-30, Taf. I-IV, 1862.

the number of the eyes in the American form appears to be peculiar, as no mention is made of it in any of the foreign descriptions. In about thirty per cent. of the individuals there are more than the normal number (two) of eyes, the number varying from three to eight, three being the number most frequently occurring.

A detailed account of this and other American Turbellaria, based upon collections made by the Illinois State Natural History Survey and submitted to the writer for study, is in course of preparation.—W. McM. WOODWORTH.

On the Genus *Callisaurus*.—Two new species of this genus present lateral fringes of the toes. These are not so well developed as in the species referred to *Uma*, but they are sufficiently so to show that the latter name must be abandoned, and the species referred to it be placed in *Callisaurus*. Thus, *Uma notata* Baird, *U. scoparia* Cope, *U. rufopunctata* Cope, etc., must be called *Callisaurus notatus*, etc. The two new species referred to are both from lower California.

CALLISAURUS CRINITUS—*Callisaurus dracontoides* Cope, Proceeds. U. S. Natl. Museum, 1889, p. 147. Two series of frontal scales, separated from the rather larger supraoculars by two (or one) rows of small scales. Large supraoculars in four or five longitudinal rows, the inner row largest, the patch bounded by granular scales anteriorly and posteriorly. Interparietal plate longer than wide. Hind leg reaching to front of orbit. Second, third and fourth fingers with well-developed fringes, which are weak on the inner side of the second and third. External side of second, third and fourth toes with well-developed fringes. Femoral pores twenty-three, the scales which they perforate in contact with each other. Color above as in *C. draconoides*. Below a blue patch on each side, with three large oblique black spots and a trace of a fourth. Total length 200 mm., head and body 87 mm., hind leg 72 mm. U. S. N. M., No. 14,895, one specimen.

The differences from *C. draconoides* are the digital fringes, the larger number of femoral pores on adjacent scales, and the three or four black spots of the belly patch; the shorter hind legs, and the longer, interparietal plate. This species has the larger size of the form *C. draconoides ventralis*.

CALLISAURUS RHODOSTICTUS—One row of frontal scales separated by small scales from the rather obscure patch of supraoculars. Interparietal as wide as long. Gular scales subequal. The hind leg extended, reaches to and beyond the end of the muzzle. Well-developed fringes on the external sides of the fingers and toes, excepting on the

first and fifth. Femoral pores fifteen and sixteen, in scales which are separated by intervening scales. Coloration above as in *C. draconoides*; below a blue patch on each side which is crossed by three oblique black spots, the third generally followed by a fourth black spot, which does not reach the abdominal border. In front of the blue patch and posterior to the axilla a large rosy spot. A large rosy spot on the gular region. Size smaller, equal the *C. draconoides draconoides*. Numerous specimens from lower California from A. W. Anthony. As this species was accompanied by *Uta parviscutata* V. den B. and *Crotalus ruber* Cope, the locality is not the Cape San Lucas country. It approaches nearer the *C. draconoides* than does the *C. crinitus*. The differences are, the digital fringes, the three or four black abdominal spots, and the rose spots on the sides and throat.—E. D. COPE.

The Food of Birds.—A report upon the food habits of the catbird (*Galeoscoptes carolinensis*) the brown thrasher (*Harporhynchus rufus*) the mocking bird *Mimus polyglottus*) and the house wren (*Troglodytes ædon*) by S. D. Judd, contains the following information. The wren is exclusively insectivorous, and, therefore highly beneficial to agriculture. Among the pests destroyed by this bird are the snout beetles, of which the plum curculio is a familiar example. Stink bugs and caterpillars, both of which are plant feeders, are also made way with in large numbers. The catbird and thrasher do much less good than the wren because of their mixed diet of animal and vegetable food, the proportion of the former in the thrasher being 63 per cent., that in the catbird 44, for the entire season. The number of mocking birds examined was only 15, so that their character, as friend or foe of the agriculturist, is still undetermined. The stomachs of those examined, however, indicate that the bulk of their food is animal.

Mr. Judd concludes his report by advising farmers to secure the services of the wren by putting up nesting boxes for them, and protecting them from the quarrelsome English sparrows.

A second interesting paper on the food habits of birds records the results of the examination by Mr. F. E. L. Beal of the stomachs of 238 meadow larks, and 113 Baltimore orioles. The meadow lark is a ground feeder and the great bulk of its food is grasshoppers, of which it consumes an enormous number. The other insects eaten are ants, bugs, caterpillars and beetle larvæ.

The oriole feeds largely on caterpillars and wasps, eating so many of the former that it is a highly important beneficial factor in agricultural work.

A summary of the stomach contents for the whole year shows that nearly three-fourths of the food of the meadow lark for the year, including the winter mouths, consists of insects.

The oriole has a similarly good record. The food for the whole season consisted of 83.4 per cent. of animal matter and 16.6 per cent. of vegetable matter.

These statistics show the importance of according these birds the protection they so well deserve. (Year book Dept. Agri. for 1895. Washington, 1896.

Preliminary Description of a New Vole from Labrador.

—In the summer of 1895, Mr. C. H. Goldthwaite made a trip to Hamilton Inlet, Labrador, to collect mammals for the Bangs Collection. The material he got is of much interest, but as I am obliged to delay publishing a full account of it for the present, I take this opportunity of making known apparently the only new species he took—a rather remarkable vole.

MICROTUS ENIXUS sp. nov.

Eighty specimens, all taken in the immediate vicinity of Hamilton Inlet.

Type from Hamilton Inlet, Labrador.

No. 3973, ♀, old adult; collection of E. A. and O. Bangs; collected July 15, 1895, by C. H. Goldthwaite. Total length, 210; tail vertebrae, 67; hind-foot, 22.5.

General characters: Size medium (about that of *M. pennsylvanicus*); tail long; hind-foot large and strong; colors dark with a sooty brown cast to upper parts; skull differing in many minor particulars from that of any eastern vole; molar teeth extremely small and weak, the tooth row very short; incisor teeth long and projecting.

Color: Upper parts a dark burnt umber brown, with many black-tipped hairs intermixed, and a general sooty cast; nose patch the same. Underparts dark gray (some specimens in fresh pelage slightly washed with buffy). Feet and hands dusky. Tail indistinctly bicolored, black above, dark gray beneath.

Cranial characters: Skull rather small (smaller than the skulls of examples of *M. pennsylvanicus*, the external measurements being substantially) the same; rostrum slender and straight; audital bullæ of moderate size, very round; palate without so pronounced a "step" as that of *pennsylvanicus*. Incisor teeth, both upper and under, long, slender and projecting outward at a decided angle. Molar teeth very weak and small, the tooth row averaging 1 m. shorter than in skulls of

pennsylvanicus of equal size; posterior loop of last upper molar extremely small, enamel folding otherwise much as in *pennsylvanicus*.

Size: Average measurements of ten old adult topotypes—total length 189.4; tail vertebræ, 60.4; hind-foot, 22.4.—OUTRAM BANGS.

Zoological News.—CœLEENTERATA.—Mr. Whiteaves records the finding of a second specimen of the branching Alcyonarian coral, *Primnoa reseda*, in the Pacific waters, off the coast of British Columbia. This is the third species of large Alcyonaria now known to occur in this region, viz., *Verrillia blakei* Stearns, *Paragorgia pacifica* Verrill and *Primnoa reseda* Pallas. Fine examples of each of these are in the Museum of the Geological Survey of Canada. (Trans. Roy. Soc. Canada, Vol. I, 1895-'96.)

PISCES.—A new genus (*Apogonops*) of fishes from Maronba Bay, New South Wales, is described by Mr. J. D. Ogilby. The genus is founded on a single specimen to which has been given the species name, *anomalus*. At first glance this genus appears to belong with the *Apogonidæ*, but the absence of vomerine teeth and the number of dorsal spines preclude such a classification. (Proceeds. Linn. Soc. New South Wales, 1896.)

REPTILIA.—Dr. Alfredo Dugés has recently published in *La Naturaleza*, a useful list of the Batrachia and Reptilia of Mexico, with the localities in which they have been found. While a good many species are omitted, the lists of localities are of much value to the student of geographical distribution.

AVES.—From personal observation M. X. Raspail finds that the time occupied by the Magpie (*Pica caudata*) in the incubation of its eggs is from 17 days to 18 days and 13 hours. The young come from the egg entirely bare, without even a trace of down, and are cared for by the parents about 25 or 26 days before they attempt to leave the nest. (Bull. Soc. Zool. de France, Juillet, 1896.)

The birds collected by Dr. A. Donaldson Smith in Somaliland contain a number of species and genera which find their closest allies in the Cape fauna. In a notice of the collection, Dr. Bowdler-Sharpe states that they are more nearly related to the birds of the Cape than to the fauna of Abyssinia or East Africa. (Geol. Journ. Sept., 1896.)

The collection of birds made by Mr. Abbott in Central Asia has been presented to the National Museum. It numbers 210 specimens, representing 97 known species, and one new to science. The collection has been catalogued by Mr. C. W. Richmond, who embodies in his paper a number of interesting notes on many of the species. (Proceeds. U. S. Natl. Mus., Vol. XVIII, 1896.)

MAMMALIA.—Dr. C. H. Merriam has recently revised the Lemmings of the genus *Synaptomys*, giving descriptions of three new species. He finds that this genus instead of being monotypic, comprises two well marked subgeneric groups—*Synaptomys* proper and *Mictomys*; that the first of these groups inhabits eastern Canada and northeastern United States from Minnesota to New Brunswick, and contains four fairly well defined forms; that *Mictomys* has a transcontinental distribution from Labrador to Alaska, and contains at least four species. (Proceeds. Biol. Sc., Washington, Vol. X, 1896.)

ENTOMOLOGY.¹

A New Era in the Study of Diptera.—The work done on the classification of North American Diptera falls naturally into three periods. The first ended with the publication of the "Catalogue of North American Diptera," by Osten Sacken, in 1859. The descriptive work of most value previous to this time was by Wiedmann and Say, and a little by Loew toward the last. Harris, Macquart and Walker had also published numerous species; but there had been little coöperation, and it was nearly impossible to determine from the descriptions the synonyms that had been created. Osten Sacken recognized this condition, and did not attempt to solve such problems in his catalogue.

The following nineteen years to the second edition of the catalogue in 1878 comprise the second period, characterized by the singular fact that the vast amount of work accomplished was almost wholly by Europeans. Walsh published some twenty species, Riley eight, and several others from one to four each—scarce forty in all—while Loew had in the same time performed the monumental work of describing at least 1300 North American species, Osten Sacken had added several hundred, and Schiner and Thomson a considerable number. Moreover, the new edition of the catalogue was enriched with a vast fund of information gathered by the author in the study of American types in all the principal European collections, revising the synonymy and correcting the generic references as would have been impossible in any other way. About the time of the issuance of the catalogue, the collections of Loew and Osten Sacken were deposited in the Museum of Comparative Zoology, at Cambridge, Mass. This marked the conclusion of what may well be called the Loew-Osten Sacken period. Loew died, and Osten Sacken retiring from the diplomatic service, resumed his residence in Germany. His dipterological writings since

¹ Edited by Clarence M. Weed, New Hampshire College, Durham, N. H.